

DERWENT-ACC-NO: 1999-280269  
DERWENT-WEEK: 200036  
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TITLE: Variable focus optical lens comprising liquid droplet

INVENTOR: BERGE, B; PESEUX, J

PATENT-ASSIGNEE: UNIV FOURIER JOSEPH[UYFON]

PRIORITY-DATA: 1997FR-0012781 (October 8, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1019758 A1	July 19, 2000	F	000	G02B 003/14
FR 2769375 A1	April 9, 1999	N/A	019	G02B 003/14
WO 9918456 A1	April 15, 1999	F	000	G02B 003/14

DESIGNATED-STATES: AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE CA JP US A  
T BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
EP 1019758A1	N/A	1998EP-0947621	October 7, 1998
EP 1019758A1	N/A	1998WO-FR02143	October 7, 1998
EP 1019758A1	Based on	WO 9918456	N/A
FR 2769375A1	N/A	1997FR-0012781	October 8, 1997
WO 9918456A1	N/A	1998WO-FR02143	October 7, 1998

INT-CL\_(IPC): G02B003/14; G02B026/02

ABSTRACTED-PUB-NO: FR 2769375A

BASIC-ABSTRACT: NOVELTY - The use of an electric field to control the shape of the conducting liquid enables adjustment of lens focus.

DETAILED DESCRIPTION - The lens comprises an enclosure (12) filled with a first liquid (13) and a droplet (11) of a second liquid situated in a specific region (15) of one surface of the container. The wall of the container is made from an insulating material, and one of the liquids is conducting and the other is insulating. The two liquids are immiscible and have different refractive indices but the same density. The second liquid droplet may occupy different positions, the variation being controlled by application of an electric field between the conducting liquid and an electrode (16) arranged on the second face of the wall. A centering system (16) ensures the centering of the droplet, and ensuring the correct shape of the droplet when the voltage is applied.

USE - Variable focus lens subject to electrical control.

ADVANTAGE - Focal length may be varied continuously through range, and lens is simple to construct.

DESCRIPTION OF DRAWING(S) - The figure shows the variable focus lens with liquid droplet.

CHOSEN-DRAWING: Dwg. 1/6

TITLE-TERMS:  
VARIABLE FOCUS OPTICAL LENS COMPRISE LIQUID DROP

DERWENT-CLASS: P81 S05 V07

EPI-CODES: S05-D04; V07-K05;

SECONDARY-ACC-NO:  
Non-CPI Secondary Accession Numbers: N1999-210174

(H)

09/529,193

	L #	Hits	Search Text	DBs
1	L1	192	("359/665").CCLS.	USPAT; US-PGPUB
2	L2	85	("359/666").CCLS.	USPAT; US-PGPUB
3	L3	54	("349/200").CCLS.	USPAT; US-PGPUB
4	L4	122	("349/57").CCLS.	USPAT; US-PGPUB
5	L5	2	((("4030813") or ("5659330"))).PN.	USPAT
6	L6	4	("4023969"   "4126854"   "4583824"   "5389945").PN.	USPAT
7	L7	2	5659330.URPN.	USPAT
8	L8	3	("2062468"   "3397313"   "3909116").PN.	USPAT
9	L9	2	4030813.URPN.	USPAT
10	L10	88	((variable adj (focus or focal)) or varifocal) near3 lens) same ((fluid or liquid) near4 lens)	USPAT; US-PGPUB
11	L11	21	((variable adj (focus or focal)) or varifocal) near3 lens) same ((fluid or liquid) near4 lens)) and ((first near4 (fluid or liquid)) same (second near4 (fluid or liquid)))	USPAT; US-PGPUB
12	L12	6	((variable adj (focus or focal)) or varifocal) near3 lens) same ((fluid or liquid) near4 lens)) and ((first near4 (fluid or liquid)) same (second near4 (fluid or liquid)))) and ((fluid or liquid) same (conduct\$3 and insulat\$3))	USPAT; US-PGPUB
13	L13	0	((variable adj (focus or focal)) or varifocal) near3 lens) same ((fluid or liquid) near4 lens)) and ((first near4 (fluid or liquid)) same (second near4 (fluid or liquid)))) and ((fluid or liquid) same (conduct\$3 and insulat\$3)) and ((non\$1miscible or miscible or imiscible) same (liquid or fluid))	USPAT; US-PGPUB
14	L14	90	((variable adj (focus or focal)) or varifocal) near3 lens) same ((fluid or liquid) near4 lens)	EPO; JPO; DERWENT
15	L15	2	((variable adj (focus or focal)) or varifocal) near3 lens) same ((fluid or liquid) near4 lens)) and ((first near4 (fluid or liquid)) same (second near4 (fluid or liquid)))	EPO; JPO; DERWENT
16	L16	1	((variable adj (focus or focal)) or varifocal) near3 lens) same ((fluid or liquid) near4 lens)) and ((first near4 (fluid or liquid)) same (second near4 (fluid or liquid)))) and ((fluid or liquid) same (conduct\$3 and insulat\$3))	EPO; JPO; DERWENT
17	FAMILY	1	FR-2769375-\$.DID.	DERWENT
18	L17	0	((variable adj (focus or focal)) or varifocal) near3 lens) same ((fluid or liquid) near4 lens)) and ((first near4 (fluid or liquid)) same (second near4 (fluid or liquid)))) and ((fluid or liquid) same (conduct\$3 and insulat\$3)) and ((non\$1miscible or miscible or imiscible) same (liquid or fluid))	EPO; JPO; DERWENT

ADDITIONAL SEARCH OVER 3591290-291  
CLASSIFIED

APPLICANT'S ART  
FORWARDED BACK SEARCH  
OVER APPLICANT'S ART

USA/

EPO/JP  
SAME  
AS  
A B C

**09/565,387**

**EAST 1.02.0008**

① **Contains Search Queries Identified As (I)**

~~② **Results Identified As (II) With Individual Documents Marked As**~~

<del>(1)</del>	<del>REVIEWED FRO/KWIC</del>	<del>(2)</del>	<del>END-TO-END REVIEW</del>
<del>(C)</del>	<del>CITED BY EXAMINER</del>	<del>(3)</del>	<del>CITED BY APPLICANT</del>

~~③ **Only New Results Presented With Update Searches**~~

**The Record of the Search Results is Not Included Here. The Record Was Lost in a Catastrophic Failure of the EAST Software Application During Preparation of FAOM Search Report. No Relevant Prior Art was Identified to Support any 35 USC §102/103 Rejections.**